UNIVERSITY OF GONDAR COLLEGE OF MEDICINE AND HEALTH SCIENCE

DEPARTMENT OF INTERNAL MEDICINE

RISKY SEXUAL PRACTICE AND ASSOCIATED FACTORS AMONG HIV POSITIVE ADULTS ATTENDING ANTI RETROVIRAL TREATMENT (ART) CLINIC AT GONDAR UNIVERSITY REFERAL HOSPITAL, NORTHWEST ETHIOPIA

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ATHESIS SUBMITTED TO SCHOOL OF MEDICINE DEPARTMENT OF INTERNAL MEDICINE, COLLEGE OF MEDICINE AND HEALTH SCIENCES, UNIVERSITY OF GONDAR, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF MASTERS DEGREE IN CLINICAL TROPICAL INFECTIOUS DISEASE AND HIV MEDICINE

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Risky sexual practice and associated factors among HIV positive adults attending anti retroviral treatment (ART) clinic at Gondar university referral hospital, Northwest Ethiopia

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Acronyms

AIDS	Acquired Immuno Deficiency Syndrome
ART	Anti Retroviral treatment
COR	Crud Odds Ratio
ETB	Ethiopian birr
SSA	Sub Saharan Africa
HAART	Highly Active Anti-Retroviral Treatment
HIV	Human Immunodeficiency Virus
MSM	Men who have sex with men
AOR	Adjusted odds ratio
PLWHA	People Living With HIV/AIDS
STIs	Sexually Transmitted Infections
UoG	University of Gondar
WHO	World Health Organization

Abstract

Introduction: Now a days, as a result of the wide availability, expansion and success of anti- retroviral therapy, HIV/AIDS related morbidities and mortalities are significantly decreasing and many HIV infected persons are living longer, healthier, and become more sexually active. Even though most HIV infected individuals protect themselves and others, a considerable number of HIV infected parsons continue to engage in HIV transmission risk practices. Unsafe sex by people living with HIV/AIDS is an area of concern because of the risk of transmission to sero discordant partners and the re-infection with new, drug resistant viral strains among the sero concordant partner(s).

Objective:-To assess risky sexual behavior and associated factors among adult HIV positive clients in Gondar University Referral Hospital, Northwest Ethiopia, 2015.

Methods:- An institutional based cross sectional study was conducted at Gondar University Referral Hospital, from May to June 2015. Structured and pretested questionnaire was used to collect the data. A total of 513 respondents were included in the study. The data was collected by interviewing respondents from May to June. Logistic regression model was used for analysis. Variables having P-value <0.05 was considered significantly associated. Adjusted odds ratio in multivariate analysis was used to determine the degree of association.

Result: - A total of 513 participants were included in the study. The prevalence of risky sexual practice was 214 (41.7%, 95%CI: 37.4%, 45.8%). The factors associated with risky sexual practice were HIV status of partner (AOR=4.785, 95% CI: 1.929- 11.868), knowing partner's HIV status (AOR=4.401, 95% CI: 1.101, 17.584), pattern of condom use (AOR= 29.522, 95%.CI: 8.789, 99.170) and HIV status disclosure to sexual partner (AOR= 11.937, 95%, CI: 2.797-50.944).

Conclusion and recommendation:- The high prevalence of risky sexual practice in this study indicated the possible an ongoing transmission of HIV to others and re-infection with other strain(s) among HIV positive adults. Therefore strong ongoing counseling and education related to the identified risk practices should be given to these population.

Key words: - HIV/AIDS, ART, unsafe sex.

1. INTRODUCTION

1.1 Statement of the Problem

Globally, an estimated 35.0 million people were living with HIV in 2013, of whom 31.8 million were adults. Worldwide, 2.1 million people became newly infected with HIV in 2013. In 2013 an estimated 1.5 million people died from AIDS-related causes worldwide(1).

The vast majority of people living with HIV are in low- and middle-income countries particularly in sub-Saharan Africa. According to the 2013 report Sub-Saharan Africa, the hardest hit region, is home to 24.7 million (71%) of people living with HIV, but it only accounts for about 13% of the world's population and an estimated 1.5 million new HIV infections, which accounts for almost 70% of the global total of new HIV infections. In 2013 there were about 1.1 million AIDS-related deaths but it has a 39% decline compared to between 2005 and 2013 as a result of antiretroviral treatment (1).

In Ethiopia, in 2013 there were an estimated 793,700 people living with HIV and approximately 45,200 AIDS related deaths, which has left about 898,400 AIDS orphans. According to EDHS 2011 adult HIV prevalence is estimated at 1.5%. However prevalence varies according to age, sex, and geographical location. According to the 2011 DHS adult prevalence was almost twice higher among females compared to males at 1.9% versus 1.0% respectively (2).

With expanded access to anti-retroviral therapy (ART), an increasing number of people living longer with HIV become a potential source of infection (3). Unless people living with HIV consistently practice safer sex practice, they can place themselves at risk of sexually transmitted infections, including other strains of HIV, and place others at risk for HIV infection.

According to studies conducted in Uganda there is an increase in sexual activity; 28% from baseline to 41% at the end of the six month follow up after ART initiation and there were also an increased number of sex partners at six month and a significantly higher number of lifetime sexual partners (4, 5).

A community-based cohort study in Baltimore, Maryland showed hypotheses that favoring an increase in high-risk behavior following HAART initiation. The first one was, improvement in overall clinical status which may increase interest or ability to engage in risky sexual practice and second one is, awareness regarding the lower risk of transmission while virologically suppressed by HAART may lead to more risky practices (6).

Risk of HIV-transmission to sero-discordant partners and the risk of re-infection with new drug resistant viral strains is a concern in persons practicing risky sexual intercourse while receiving HAART(7).

Understanding the risky sexual practice in Ethiopia could have public health importance and helps to generate and provide evidence based information for policy makers, program planners and health service providers on the problem which subsequently help to design and implement appropriate intervention mechanisms. However, there is limited number of studies on the issue of risky sexual practice among PLWHA in Ethiopia in general and at the study area in particular. So, this study is aimed to determine the prevalence and factors associated with risky sexual practice among PLWHA who have ART follow up at this particular study area.

1.2. Literature Review

1.2.1 Prevalence of risky sexual practice

Antiretroviral therapy (ART) has increased the life expectancy, severely reduced the tendency for social and emotional depression and paradoxically raises urge and sexual functions in sexually inactive HIV-infected adult patients (8).

The health improvement benefits of HAART highlight the importance of assessing the impact of HAART on sexual behavior among patients on therapy. Concerns have been raised worldwide that improvements in health status and quality of life of HIV-infected patients due to access to effective treatment with HAART may increase opportunities for continued high-risk behaviors (9).

A study conducted in Buenos Aires, Argentina showed that inconsistent condom use was reported in 31% of the participants who engaged in anal sex, 39% of the participants who engaged in vaginal sex, and 71% of the participants who engaged in oral sex and a 33% prevalence of multiple sexual partner was reported, with men reporting more sexual partners than women (10).

A study conducted in Dar Es Salaam, Tanzania indicate that a prevalence of 40% unprotected sex among young males and 37.5% among young females and 10.6% of males and 15.9% of females also reported having multiple sexual partner (11) .

According to a study conducted in South Africa with a cross-sectional survey among adult HIV patients attending ART clinic respondents reported having inconsistent condom use and unprotected sex .Of these respondents, two third were with a steady partner, one third with a casual partner. Higher rates of unprotected sex was reported in women, though, men were significantly more likely to report having multiple partners in the last 6 months (12-14).

Studies conducted in regional hospital of Sokodé, Togo , urban informal settlement in Nairobi and Cote d'Iviore also showed that 34.6% of the participants reported having

unsafe sex, one- third of patients reported inconsistent condom use and 40.1% of respondents reported inconsistent condom use respectively (15-17).

Very recent cross-sectional study conducted in Addis Ababa, Ethiopia showed that more than one third (36.9%) of study participants reported to have unprotected sexual intercourse (7).

Another institution based cross-sectional study conducted at Debre-zeit, Ethiopia showed that about one-fourth (25%) of the participants were reported inconsistent condom use, while about 53 (7.9%) of the respondents reported no use of condom at all in all their sexual intercourse (4).

Regarding multiple sexual partner studies conducted in Johannesburg and Cape Town, South Africa indicated that among the study participants substantial number of participants reported more than one sexual partners (12, 14).

An institution based cross-sectional study conducted at Debre-zeit, Ethiopia showed that about 2.8% of the participants have reported sexual partnership with more than one partner. Among these only 0.4% have identified their partners as steady partner, 14 (2.1%) as a casual partner and 0.3% as having both type of partner (4). In a similar study conducted in Addis Ababa among ART attendees showed that more than one-third **(36.9%)** had one or more sexual encounters without using a condom. Of which 77.0% were with a steady partner, 16.8% were with a casual partner and 6.3% were with both (18).

A cross sectional study conducted in South Africa indicate that among the study participants almost two-thirds of them reported being in an HIV discordant relationship, either with a HIV negative (20.9%) or with an unknown sero status partner (39.8%). Regarding sexual partner, women were significantly more likely to report having HIV sero negative or status unknown partner compared to men. (14).

Disclosing one's HIV status is not easy. HIV status is intensely personal information and the act of disclosure can lead to both positive and negative results. This is why people living with HIV/AIDS (PLWHA) are entitled to control over this crucial decision and

should be provided with all the necessary support and information — including information about their obligations under the criminal law — to decide if, when and how they will tell other people about their HIV status (19).

Regarding disclosure and knowing their partner's HIV status a clustered randomized trial conducted in Tanzania, Kenya, and Namibia showed that women were less likely to report disclosure and knowing their partner's HIV status compared to men (20).

A study conducted in Cape Town South Africa on disclosure of HIV status indicate that among the participants 19% of them had not disclosed their HIV status to their most recent sex partner. And nearly half of them reported having partners with unknown HIV status (46.5%). 39.5% of the participants had an HIV-positive partner, and 14% had an HIV-negative partner. (13).

1.2.2 Factors associated with risky sexual practice

1.2.2.1 Socio demographic factors

Regarding Socio demographic characteristics a study in Buenos Aires, Argentina indicted that sex was significantly related to inconsistent condom use (10). Another study in Johannesburg, South Africa showed that sex and marital status were significantly associated with the tendency to engage in multiple partnerships. Men were 5.7 times more likely to have more than one partner compared to women and those who were never married were two times less likely to use condoms consistently than those who were ever married and participants with a primary and secondary education had a significantly increased odds of using condoms in an inconsistent manner than those with a college or tertiary education but employment status was not statistically associated with consistent condom use.(12). Another study in Tanzania, Kenya, and Namibia also showed that men were more likely to report having multiple partners (8.2%) compared to women (3.2%)(20).

1.2.2.2. Barriers reported for not to use condoms

A number of factors were indicated by different studies for not using condom which includes: partner did not want(refused) to use a condom, partner may also HIV positive , desire to have a child, decreased sexual pleasure, alcohol use by husband, Nondisclosure of HIV status, Husband's anxiety and depression, not aware of the importance of condom after sero conversion, had no condom available ; use was against their religion , fear of asking partner to use condom ; and thoughts that the partner did not have an STIs (4, 7, 12, 18, 21).

1.2.2.3 Medical and psychosocial factors

Studies conducted in Buenos Aires, Argentina and Togo reveal that those participants who reported symptoms of depression, poor adherence, on ART for more than one year and consume alcohol before sex were significantly associated with inconsistent condom use during sexual intercourse (10, 15). Another study conducted in Kumasi, Ghana indicated that participants on ARV were 80% less likely to have used condoms during sexual intercourse (22)

Many studies have shown that alcohol consumption before sexual intercourse is a significant predictor of unprotected sex among PLWHA. For example any alcohol use in the past 6 months was associated with a three-fold increase in the odds of unprotected sex compared to no alcohol use (5, 7, 18, 23, 24).

Analysis showed significantly higher likelihood of unprotected sex with partners of unknown sero status than with those whose status is known. A partner being HIV-positive was also the most reported reason for not using condom(25).

Regarding HIV sero-status a study conducted in South Western Uganda with a cross sectional study design indicated that respondents who had sexual partners of unknown sero status had almost a 6-fold increase in the odds of unprotected sex compared to those partners who were known to be HIV negative (5). Another study in Dar Es Salaam, Tanzania indicated that the likelihood of engaging in a multiple sexual partnership was 2.6 times higher among respondents who did not know about the HIV status of their sexual partners as compared to those who did (11)

Stigma is a common problem in HIV disclosure. Some progress has been made in terms of shifting the public's perception of HIV since the beginning of the epidemic. But, despite that progress, PLWHA continue to be particularly stigmatized worldwide (19).

Studies have shown that sex, time since diagnosis, having multiple sexual partner and having regular or casual sexual partner were significantly associated with disclosure. For instance individuals with multiple partners in the past 3 months were less likely to disclose than those with only one reported sex partner and females were less likely to report having disclosed their HIV status to sex partners than males. It was also reported that male sex plays a major role in disclosure of HIV status to sex partners better than female sex (8, 12, 20).

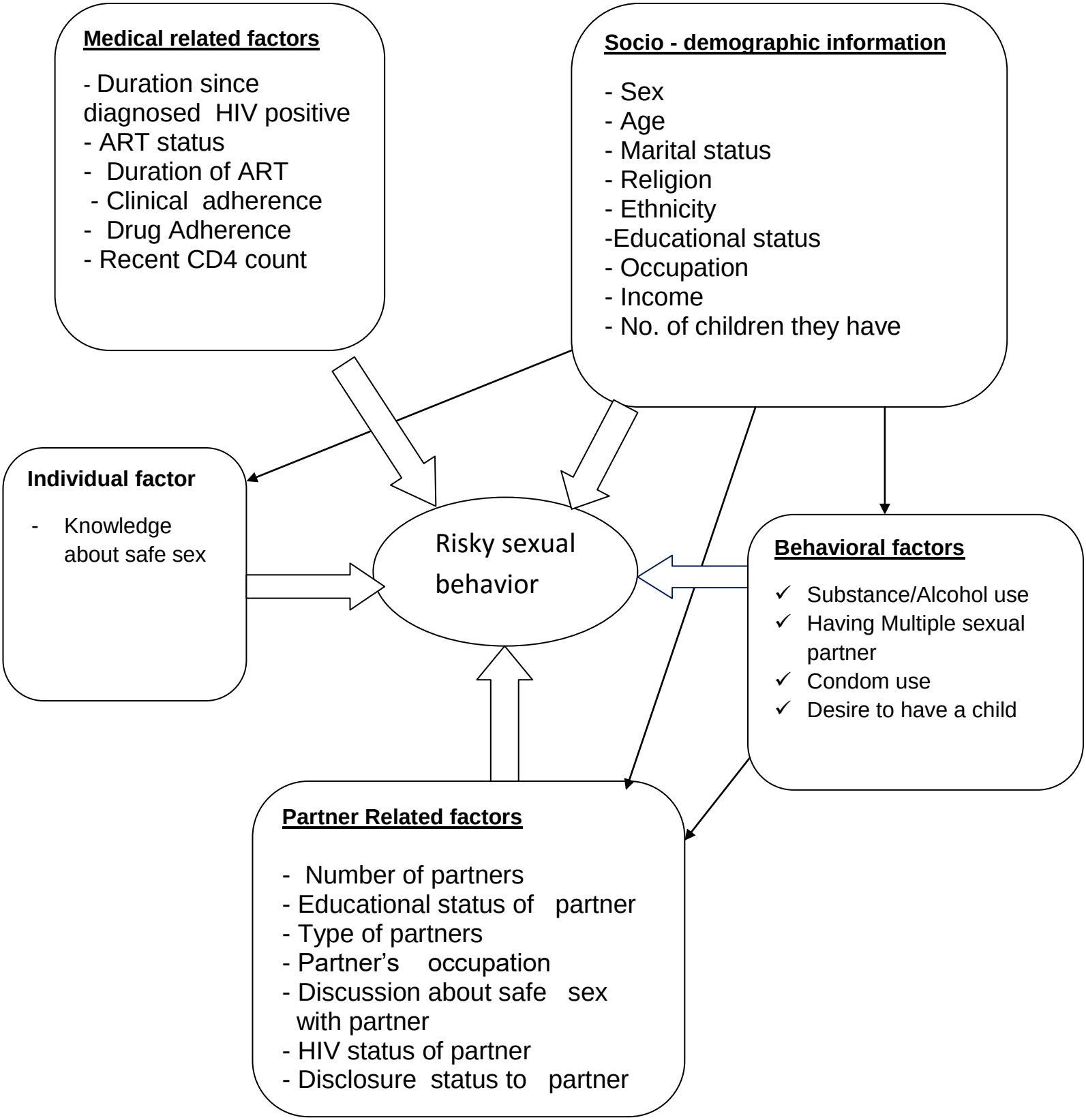

Fig 1. Conceptual framework for risky sexual practice

1.3 Justification of the study

Now a days the number of people living with HIV/AIDS is increasing due to the continued expansion of the disease and the wide expansion and provision of ART, which can improve the quality of life and provide longer survival, during which the patients become sexually active.

As people living with HIV/AIDS become sexually active, they become the potential source of infection and re-infection unless strong preventive measure is taken.

As HIV positive person engaged in unprotected sex they may infect their sero-negative sexual partner(s) or they are at risk of acquiring and transmitting to others different HIV virus strains, which could potentially be drug resistance. Additionally disease progression will be rapid if an individual infected with different HIV starins. Hence their life span and quality of life will be compromised.

Therefore, studying the sexual practice of people living with HIV /ADIS becomes a great area of concern .Gondar University Hospital provides HIV care and treatment for a high number of HIV/AIDS patients, but as far as my knowledge is concerned there is no similar study done regarding the sexual practice of people living with HIV/AIDS in this area. So, the aim of this study is to assess the risky sexual practice and associated factors among HIV positive adults attending chronic HIV care and treatment clinic in Gondar University Teaching Hospital. Finally the result of this study will help decision makers, program planners, managers and other concerned bodies design appropriate strategies and interventions.

2. Objectives

General objective

To assess the prevalence and associated factors of risky sexual practice among HIV positive adults attending antiretroviral treatment clinic in Gondar University Referral Hospital from May 1,2014 to April 30, 2015, Northwest Ethiopia, 2015.

Specific objective

1. To determine the prevalence of risky sexual practices among HIV positive adults attending antiretroviral treatment (ART) clinic.
2. To identify factors associated with risk sexual practice among HIV positive adults attending antiretroviral treatment (ART) clinic.

3. Methods

3.1 Study design and period

Institutional based cross-sectional study was conducted to assess the prevalence and associated factors of risky sexual practice among HIV positive adults visiting ART clinic, from May to June, 2015.

3.2 Study area

The study was conducted at Gondar University Referral Hospital in chronic HIV care and treatment clinic. Geographically it is located in Gondar city administrative, North Gondar Zone, Amhara regional state which is 727 km far from Addis Ababa (capital city of Ethiopia) at an elevation of 2215 meter above sea level. Gondar University Referral Hospital is currently providing a service for more than 5 million people of the catchment area with varying climatic and geographical distribution. The hospital delivers the services through two major categories as outpatient and inpatient. ART clinic is one of the outpatient service delivery sites where chronic HIV care and treatment is provided for HIV positive individuals. The clinic started the ART service as fee based in 2003 and two years later the free based ART service was started. Currently there are about 5210 on ART and 2471 pre-ART clients who actively attending their follow-up.

3.3 source population and study Population

3.3.1 Source population

All HIV positive adults who have follow-up at ART clinic for the past one or more year(s) in Gondar University Referral Hospital.

3.3.2. Study population

All HIV positive adults who have follow-up at ART clinic for the past one or more year(s) in Gondar University Referral Hospital during the study period.

All HIV positive adult clients who have follow-up at ART clinic in Gondar University Referral Hospital during the study period.

3.4 Inclusion and Exclusion criteria

Inclusion criteria: All HIV positive adults who having follow-up at ART clinic in the past one or more year(s) during the study period.

Exclusion criteria: Patients who are seriously ill and unable to communicate efficiently were excluded from the study.

3.5 Sample size and sampling procedures

3.5.1 Sample size determination

The sample size is determined by using the single population proportion formula by assuming prevalence of risky sexual practice (p) to be 37% from previous study done in Addis Ababa (7).

Assumptions for the sample size calculation are as follow:

- A 95% confidence level
- 37% is prevalence of risky sexual practice
- 5% marginal error and
- 10% non response rate was added to the total sample

Based on the above assumption sample size is computed as :

$$n = \frac{Z^2\ P(1-P)}{d^2} = \frac{(1.96)^2 \times 0.37(1-0.37)}{(0.05)^2} = \frac{3.84 * (0.2331)}{(0.0025)} = 358$$

Including the 10% non response rate the total sample size was 394.

Sample size for the second objective is determined using a studies conducted in Vietnam and in Addis Ababa where sex and number of current partner(s) were found to be associated factor for unprotected sex respectively (7, 26). And a study done in Montgomery identified alcohol consumption as associated factor for unprotected sex (23). By Using epi info version 7 and by taking 95% confidence level, unexposed to exposed ratio (1:1), 80% power and 10% non-response rate reveals the following result. sex (practice in unexposed 58% and practice in exposed 72.7% gives a total sample of 389) and number of Current partner(s) (prevalence in unexposed 43.3% and prevalence in exposed 56.7% yields a total sample of 513) and alcohol consumption (prevalence in unexposed 43% and prevalence in exposed 57% yields a total sample of 471). From the above sample size calculations the minimum larger sample size was 513.

Table 1: showing sample size calculation for the second objective

S.no	Key indicators	Assumptions	% of outcome in exposed	% of outcome in unexposed	Sample size
1	Sex	- 95% CI, - 80% power - Exposed : unexposed ratio to be 1	72.7	58	389
2	**Multiple sexual partner**	- **95% CI,** - **80% power,** - **Exposed : unexposed ratio to be 1**	**56.7**	43.3	513
3	Alcohol consumption	- 95% CI, - 80% power, - Exposed : unexposed ratio to be 1	57	43	471

3.5.2 Sampling procedure

A systematic random sampling was used to select the study participants. The sampling interval is determined based on the number of patients who came for follow up at ART clinic in each month. The average number of patients who came to ART clinic for follow up in each month is estimated to be 2200. By considering monthly clients flow for follow up, the sampling interval was **K =N/n = 2200/513 = 4.**

3.6 Data collectors and supervisors

Data collectors were case managers working at Gondar University Referral Hospital and the supervisor was nurse working other than the ART clinic. The data collectors and supervisors were trained regarding the methods, objectives, and other technical aspects of the study before data collection begin.

3.7 Data collection tool and procedures

A structured interviewer administer questionnaire was used. The questionnaire was first prepared in English, then translated into Amharic, and then translated back to English to check its consistency. To select the study participants the data collector selected every fourth client from those who came for follow-up and after detailed description about the study and ethical issues the interviewer was administer the questionnaire to collect the data.

3.8 Data quality assurance

The questionnaire was first prepared in English, then translated into Amharic, and then translated back to English to check its consistency. One supervisor was recruited to perform daily supervision of data collection procedure. Training was given by the principal investigator for both data collectors and the supervisor. Questionnaire was pre-tested in 5% of the anticipated sample who was not being included in the main study. Questions causing difficulty in the pre-test was rephrased and corrected. The supervisor was checked the appropriateness of the data collection by counterchecking the completed questionnaires periodically. Onsite technical assistance and guidance was given by the researcher.

3.9 Study variables

3.9.1 Dependent variable

Risky sexual practice

3.9.2 Independent variables

- Socio-demographic characteristics
  - Age
  - Sex
  - Marital status
  - Residence
  - Ethnicity
  - Educational status
  - Religion
  - Income
  - Occupation

- Partner Related factors
  - ✓ Number of partners
  - ✓ Type of partners
  - ✓ Discussion about safe sex with partner
  - ✓ HIV status of partner
  - ✓ Disclosure HIV status to partner
- Medical related factors
  - ✓ Duration since diagnosed HIV positive
  - ✓ ART status
  - ✓ Duration of ART
  - ✓ Drug Adherence
  - ✓ Clinical adherence
- Individual factors
  - ✓ Safe sex belief
  - ✓ Knowledge about safe sex
- Behavioral factors
  - ✓ Alcohol use
  - ✓ Substance use

3.10. Data processing and analysis

The collected data was where checked for completeness, coded and entered in to Epi-Info version 3.5 and was exported to SPSS version 20 for analysis. Data entry was made by the principal investigator. Binary and multiple logistic regression models were used. Variables having P-value < 0.05 will be considered significantly associated and for p value < 0.2 multiple regressions was used. Adjusted odds ratio was used to determine the strength of association. Both descriptive and analytical findings of the study were presented using text, tables and graphs.

3.11. Operational definition

Risky sexual practice: having one or more of the following: multiple sexual partners, not using condoms at all, inconsistent use of condoms, not disclosing HIV status to sexual partner, sex with the influence of substance use like alcohol; from May 1, 2014 to April 30 1015.

Multiple sexual partner: - having more than one sexual partner.

Non regular: Include those individuals with whom he or she had sexual intercourse once or few times, other than regular /steady partner (spouse/boy or girl friend) non-paying.

Regular partner: partner with whom the respondent had regular sexual partner relationship and perceived by the respondent as spouse or boy/girl friend.

Consistent condom use: condom use reported to be always in every sexual intercourse.

Inconsistent condom: - not using condom regularly in each and every sexual intercourse.

4. Ethical consideration

Ethical clearance was obtained from the Institutional Review Board (IRB) of the University of Gondar, College of Medicine and Health Science, department of internal medicine. Additionally support letter was obtained from the University of Gondar Hospital. A respondent was informed about the purposes, procedures, risks and benefits, and the private and confidential nature of the study. To assure confidentiality data collectors was from the ART clinic staffs. No name or personal identifying information was written on the questionnaire. Participation was voluntary and they was have the right not to participate in the study or withdraw at any time from the study and their involuntariness was not cause any negative consequences on them as well as on the service they get from the ART clinic and from the health facility as well. Finally written informed consent was obtained from each respondent before conducting the interview.

5. Dissemination of the result

The findings of this study was submitted and presented to department of internal medicine, University of Gondar, Gondar University Hospital and other stake holders who need the information for decision making and intervention for HIV prevention and care and it will also disseminated through reports, workshops, journals and finally it will be send to a known journal for publication and will be available for public.

6. Result

Socio-demographic characteristics

A total of 513 participants were included in this study with a response rate of 100%. The majority 305 (59.3%) of the study participants were females and the mean age of the respondents was 36.11 years (SD ± 8.149 years). Most of the respondents were in the age group 30- 39(48.9%) years. Among the respondents 435 (84.8%) were Amhara in ethnicity (Table-2)

Table -2 socio-demographic characteristics of HIV positive adults attending anti retroviral treatment (ART) clinic at Gondar university referral hospital, northwest Ethiopia, 2015(N 513)

Characteristics	Frequency	Percent
Sex		
Male	209	40.7
Female	304	59.3
Age		
18-29	101	48.9
30-39-	251	19.7
40-49	124	24.2
≥50	37	7.2
Residence		
Urban	464	90.4
Rural	49	9.6
Marital status		
Married	265	51.7
Divorced	85	16.6
Widowed	82	16.0
Single	81	15.8
Educational status		
No formal education	120	23.4
Primary ‘’	100	19.5
Secondary ‘’	244	47.6
Higher ‘’	49	9.6
Religion		
Orthodox	443	86.4
Muslim	55	10.7
Protestant	15	2.9
Ethnicity		
Amhara	435	84.8
Tigre	28	5.5
Others *	50	9.7

Table 1: continued Socio-demographic characteristics of HIV positive adults attending anti retroviral treatment clinic

Occupation		
Gov't employee	110	21.4
House wife	107	20.9
Merchant	99	19.3
Private employee	88	17.2
Farmer	38	7.4
Others **	71	13.8
Av .monthly income		
< 600	115	22.4
601- 1000	107	20.9
1001-3000	232	45.2
>3000	59	11.5
No. of children		
Has no children	108	21.1
1-3 children	330	64.3
>3 children	75	14.6

* Quimant, Oromo

** Daily laborer, student, retire, driver, living with family

Partner related characteristics, HIV status disclosure and safe sex discussion

Among the study participants 358(69.8%) of them were sexually active in the past one year. Of these sexually active study subjects 309(60.2%) reported having one sexual partner during the past one year. Regarding type of sexual partner 291(56.7%) of respondents had regular partner, 60(11.7%) had non-regular partner and 7(1.4%) had sexual intercourse with commercial sex-workers. Concerning HIV status disclosure nearly a quarter 81(23.2%) of the sexually active study participants had not disclosed their HIV sero status to their sexual partner. The mean length of stay with current partner was 8.1 ±6.6 (SD) years (Table 3).

Table-3: **Partner related characteristics, HIV status disclosure and safe sex discussion of HIV positive adults attending anti retroviral treatment (ART) clinic at Gondar university referral hospital, northwest Ethiopia, 2015 (N=513)**

Characteristics	Frequency	Percentage
Have Partner in the last one year		
Yes	358	69.8
No	155	30.2
Number of partner in the last one year		
One	309	86.3
More than one	49	13.7
Type of partner in the past one year		
Regular	291	81.3
Non-regular	67	18.7
HIV status of the partner(s)		
Negative	44	12.3
Positive	227	63.4
Unknown	87	24.3
Discussion about safe sex with partner(s)		
Yes	286	79.9
No	72	20.1
Length of stay with current partner		
<1year	74	20.7
1-4Years	49	13.7
>4year	235	65.6
HIV status disclosure to partner(s)		
Yes	275	76.8
No	83	23.2

Medical related characteristics

The majority of the respondents 274 (53.4%) had known their HIV status before five years. The mean time since tested HIV positive is 8.86 ± 2.85(SD) years. About 225(43.9%) of the participants are taking anti retroviral treatment for more than five years with a mean time of 4.9 ± 2.81(SD) years since the start of ART. Nearly forty percent 204(39.8%) of the study participants have a recent CD4 count of >500/mm^3 and the mean CD4 count was 480.7 ± 321.5(SD) and most of them are in a good clinical 480(93.68%) and drug 460(89.7%) adherence.

Knowledge related to safe sex

Regarding knowledge related to safe sex beliefs 507(98.8%) of the respondents reported that having sex after excess alcohol consumption is a risk for HIV transmission. Concerning unprotected sex between HIV positive partners 508 (99.0%) of the respondents have believed that it is risk for disease progression. About ninety seven percent 498 (97.1%) of the participants also believed that using condom is important during sexual act between HIV positive partners. About 37(7.2%) of the study participants had not believed the importance of disclosing self HIV status to partner/s to prevent disease transmission. Nearly ninety three percent 476 (92.8%) of participants believe that getting infected with other sexually transmitted disease will enhance HIV transmission.

Behavioral characteristics

Among the respondents, the prevalence of risky sexual practice was 214 (41.7%, 95%CI: 37.4%, 45.8%). From participants, 49(13.7%, 95 % CI: 10.6, 17.4) had had sexual intercourse with more than one partner in the past one year (Table 3).

Among the sexually active study participants, majority 259 (94.2%) of them who had regular partner had disclosed their HIV sero status to their sexual partner. But among those who had non regular partner 51(61.4%) of them have not disclosed their HIV sero status to their sexual partner. Regarding substance use, nearly ninety four percent (93.6%) of the study participants reported no use of substances in the past one year. Sexual intercourse after excess alcohol consumption was reported by 39 (10.89%) of the participants.

Regarding condom utilization 277 (77.7%) of sexually active respondents reported condom use during sexual intercourse. From these condom users 80(22.3%) of them had used condom inconsistently.

The most common reasons for not using condom all the time or for inconsistent use of condom were: desire to have child 63(12.3),my partner did not want to use condom 37 (7.2%) fear to ask partner to use condom 24(4.1%) , condom was not available 18(3.5%), I was drank alcohol and did not think of condom use 12(2.3%), condom was

against my religion10(1.9%), I am already HIV infected 10(1.9%),my partner already HIV infected 2(0.4%) ,perceived that ART prevents the transmission.

Factors associated with risky sexual practice

All variables were analyzed using bivariable logistic regression and all explanatory variables with p-value less than 0.2 in bivariable analysis were simultaneously entered to multiple variable analysis of binary logistic regression.

In a bivarate analysis risky sexual practice has an association with age, marital status, average monthly income, number of children, length of stay with current partner, number of partner, discussion about safe sex, HIV status of partner, type of partner, sexual inter course in the past one year, substance use in the past one year, sex after excess alcohol consumption, condom use and pattern of condom use.

After adjusting for confounding variables on multiple analyses four variables (HIV status of partner, awareness to partner's HIV status, and pattern of condom use) were independently associated with risky sexual practice. Those participants who had HIV positive partner were 4.8 (AOR=4.785, 95% CI: 1.929- 11.868) more likely to engaged in risky sexual practice as; where as those participants who had partner(s) with unknown HIV status were 5 times (AOR= 5.228,95%,CI: 1.153 - 23.708) more likely to engaged in risky sexual practice compared to those who had HIV negative partner.

Those participants who had used condom inconsistently, (AOR= 29.522, 95%.CI: 8.789, 99.170) were 29.5 times more likely to engaged in risky sexual practice as compared to those who used condom consistently. Those participants who had not known their partner's HIV status were 4.4 times(AOR=4.401, 95% CI: 1.101, 17.584) more likely to engaged in risky sexual practice as compared to those who had known their partner's HIV status and among the study participants those who had not disclosed their HIV status to their sexual partner were 12 times (AOR= 11.937, 95%, CI: 2.797-50.944) more likely to engaged in risky sexual practice (Table 4).

Table 4 Bivarate and multivariate analyses of explanatory variables and risky sexual practice of HIV positive adults attending anti retroviral treatment (ART) clinic at Gondar university referral hospital, northwest Ethiopia, 2015 (N=513)

Variables	Risk sexual practice Yes n(%)	No n(%)	COR(95%CI)	AOR(95%CI)
Age				
18-29	55(54.5)	46(45.5)	6.178 (2.37-16.10)	
30-39	111(44.2)	140(55.8)	4.096(1.651-10.166)	
40-49	42(33.9)	82(66.1)	2.646(1.023-6.843)	
>=50	6(16.2)	31(83.8)	1	
Marital status				
Single	42(51.9)	39(48.1)	1	
Married	132(49.8)	133(50.2)	0.922 (0.560-1.516)	
Divorced	29(34.1)	56(65.9)	0.481(0.257-0.899	
Widowed	11(13.4)	71(86.6)	0.144(.067-0.311)	
Partners HIV status				
Negative	9 (20.5)	35 (79.5)	1	**1**
Positive	123 (54.2)	104 (45.8)	4.599 (2.113-10.010)	**4.785 (1.929- 11.868)***
Unknown	77(36.8%)	10 (6.7%)	29.944 (11.180-80.202)	**5.228 (1.153 - 23.708)***
Sexual intercourse in the past one year				
Yes	209(58.4)	149(41.6)	1	
No	5(3.2)	150(96.8)	42.081(16.846 - 105.114)	
Knowing HIV status of partner				
Yes	132(48.7)	139(51.3)	1	**1**
No	77(88.5)	10(11.5)	8.108(4.024-16.337)	**4.401(1.101-17.584)***
Type of partner				
Regular	152(52.2)	139(47.8)	1	
Non regular	57(85.1)	10(14.9)	5.212(2.565-10.605)	

Table 4 Continued Bivariate and multivariate analyses of explanatory variables and risky sexual practice of HIV positive adults attending anti retroviral treatment (ART) clinic

Sex after excess alcohol consumption				
Yes	35(89.7)	4(10.3)	7.292(2.532-20.998)	
No	174(54.5)	145(45.5)	1	
HIV status disclosure to sexual partner				
Yes	133(48.4)	142(51.6)	1	
No	76(91.6)	7(8.4)	11.592 (5.159-26.044)	**11.937(2.797-50.944***
Discussion about safe sex				
yes	146(69.9)	63(30.1)	1	
No	140(12.5)	9(6.0)	6.712(3.216-14.011)	
No. of children				
Has no children	57(52.8)	51(47.20)	2.375(1.284-4.392)	
1-3 children	197(59.7)	133(40.3)	1.435(.842-2.444)	
>3 children	51(68.0)	24(32.0)	1	
Length of stay with current partner				
< 1 year	60(81.1)	14(18.9)	4.397(2.397-8.300)	
1-4 years	33(67.3)	16(32.7)	2.116(1.105-4.051)	
>4 years	116(49.4)	119(50.6)	1	
Average monthly income				
<600 ETB	30(28.0)	77(72.0)	0.403(.208-.781)	
601-1000ETB	45(39.1)	70(60.9)0	0 .665(.353-1.252)	
1001-3000ETB	110(47.4)	122(52.6)	0.933(.527-1.652)	
>3000 ETB	29(49.2)	30(50.8)	1	
Condom use during sexual intercourse				
Yes	131(47.5)	145(52.5)	1	
No	77(96.2)	3(3.8)	28.410(8.753-92.213)	

Pattern of condom use				
Consistent	132(29.4)	146(70.6)	1	**1**
Inconsistent	77(96.1)	3(3.9)	28.389 (8.748, 92.129)	**29.522 (8.799-99.170)∗**

∗ Statistically significant (P< 0.05)

7. Discussion

Although researches showed that many PLWHA maintain safe sex practice a considerable number of HIV infected persons continues to engage in HIV transmitting risky practice. Unprotected sex, having multiple sexual partner and other risk behaviors by people living with HIV/AIDS are an area of concern because of the risk of contracting and /or transmitting the virus.

Of the sexually active participants 291(81.3%) had sexual intercourse with regular partner. This study also found that 44(12.3%) of them were with HIV negative partner, 227(63.4%) were with HIV positive partner and the rest 87(24.3%) were with unknown sero status partner.

According to this study, the prevalence of risky sexual practice was 41.7%(95%,CI: 37.4 , 45.8) which is nearly consistent with a study conducted in Addis Ababa where 36.9% of participants engaged in unprotected sex (7). But it is higher than the studies done in Debrezeit (22.2%) (4), Jimma (24%)(25) and Johannesburg, South Africa (34.0%) for multiple partner(12) and it is lower than a study done in Kumasi Ghana (51%) (22) .

The above result implies that considerable number of clients are engaged in risky sexual practice and become a potential source of infection so that they can contribute to continued transmission of HIV and/or re-infection with drug resistant viral strain which is very challenging.

In this study the common reasons identified for not using condom at all or use inconsistently were: wanted to have child, partner did not want to use condom (she/he), fear to ask partner to use condom, condom was against my religion, I was drank alcohol and did not think of condom use, being already HIV infected, condom was not available,

and perceived that ART prevents the transmission. This finding is nearly comparable with study conducted in Santiago ,Dominican Republic(21). This finding is also a common reason identified in a study done in Addis Ababa(7)

Regarding respondents partner HIV status with whom they had unprotected sex about 5% of them were with HIV negative partner. This is nearly comparable with study conducted in Jimma with nine percent of the unprotected sex events were with partners perceived to be HIV negative(25).

Regarding knowing partner's HIV status those participants who had not known their partner'(s) HIV status were 4 times (AOR= 4.401, 95%, CI: 1.101-17.584) more likely to engage in risky sexual practices. Compared to men; women were more likely to know their partners HIV status (40.6% Vs 59.4%) which was not agreed with the study done in Tanzania, Kenya, and Namibia(20).

Sexual intercourse without condom was reported in 15.2% of the sexually active respondents which is lower compared with a similar study done in Addis Ababa(7). In this study unprotected sexual intercourse is high in females compared to the males (42.5% Vs 57.5%) which is in line with a similar cross sectional study done at Debre zeit(4).

Concerning HIV status disclosure to sexual partner those participants who had not disclosed their HIV status to their sexual partner were 12 (AOR=11.937, 95%, CI: 2.797-50.944) times more likely to engaged in risky sexual practice.

Nearly fifteen percent of the study participants reported inconsistent condom use in the past one year. But it is low compared to a study conducted in Johannesburg, South Africa (12). Inconsistent condom use is again high in females compared to males (67.1% Vs 32.9%) which is higher compared to the finding done in Italian DIDI study (27). And it is also supported by a study done in Cote d'Ivoire where a higher proportion of females reported inconsistent condom use (16) it is low compared to a study conducted in Cameroon (28).

8. Strength and Limitation of the study

Strength: - As much as possible the study tried to assess important factors associated with risky sexual practice.

Limitations

- ✓ The study is a cross sectional study design which does not provide the direction of causality
- ✓ The sensitive nature of sexuality may result in social desirability bias, which could lead to underestimate of the prevalence of risky sexual practices
- ✓ It lacks a qualitative measure

9. Conclusion and recommendation

The prevalence of Risky sexual practice among chronic care and treatment attendees was high (41.7%).The variables which showed a statistically significant association were: HIV status of partner, knowing partner's HIV status, pattern of condom use and disclosing HIV status to sexual partner.

Since the study design is a cross sectional and the result is a onetime result a further prospective study is recommended to address the cause and effect relationship of the dependent variables and the outcome variable. A qualitative study is also needed to know the possible reasons for this high risky sexual practice.

To create behavioral change on this high risky sexual practice the UoG Hospital ART clinic should provide Health education and counseling which focuses on the identified factors on regular base. It is advisable to provide behavioral change education on each ART appointments on follow up care particularly for those who were not using condom consistently, who do not know their partner's HIV sero status, who had not disclosed their HIV status to their partner. Free and open discussions about consistent condom use, HIV status disclosure, should be encouraged among partners to enhance safe sex practice.

Finally governmental and non-governmental organizations should strengthen the provision of secondary prevention messages and risk-reduction interventions regarding safe sex practice for PLWHA to prevent the onward transmission of the virus.

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Annexes

Annex 1: Information Sheet

Information Sheet and Consent Form Prepared for HIV positive clients who are going to participate in research project, to assess risky sexual practice and associated factors among adult HIV clients who are attending ART clinic at University of Gondar Referral Hospital, 2015

Name of the principal Investigator: Abiyot Abeje

Name of Advisors: 1. Mr. Abebaw Addis

2. Dr. Genet G/medhin

Name of the organization: University of Gondar College of medicine and health science department of internal medicine

Introduction

This information sheet and consent form is prepared HIV positive clients to study risky sexual practice and associated factors among HIV positive clients who are attending ART clinic. It is prepared to clear up the research project that you are asked to join by the investigators. The investigators include one final year clinical tropical infectious disease and HIV medicine graduate student and two advisors from institute of public health and internal medicine. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study.

Purpose of Research Project

The purpose of this research project is to assess risky sexual practice and associated factors among HIV positive clients who are attending ART clinic at Gondar university hospital

Procedures

In order to accomplish the research project the study data will be obtained by inviting you to take part in the project. If you are willing to participate in this project, you need to understand and sign the consent form. Then you will be requested to respond for the questions you will be asked. You do not need to tell your name to the data collector and

all your responses and the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risks/ discomforts

By participating in this research project, you may feel some discomfort especially on wasting time about 30 minutes to respond the questions, otherwise no risk in participating in this project.

Benefit:

There is no any benefit from participating in this research but the output of the study will be beneficial for improving the risk behavior of HIV positive individuals and other services provided for the HIV positive clients

Incentives

You will not be provided any incentives or payment to take part in this project.

Confidentiality

The information collected from this research project will be kept confidential and Information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. And it will not be accessed by anyone except the principal investigator and will be kept locked with key.

Person to contact

If you want to talk to someone about this study, if you feel you have not been treated properly, if you are harmed by joining the study, if you have any question, please contact the following persons:

Principal investigator: Abiyot Abeje
Tel: +251- 918 78 68 09
Email: bytmolla@gmail.com

Advisors:

1. Mr. .Abebaw Addis
   Tel: +251-910 90 57 98
   Email: abebaw.addis@gmail.com
2. Dr. Genet G/medhin
   Tele: +251-911381387
   Email: genygebre@yahoo.com

Annex 2: Consent form and questionnaire

Hello! How are you? My name is _____I am here on the behalf of University of Gondar College of medicine and health science department of internal medicine in order to collect information related to risky sexual behavior from clients receiving ART. So, this is questionnaire prepared to assess sexual behavior of people living with HIA/AIDS who are on ART in Gondar university hospital. The main aim of the study to provide basic information about the sexual behavior of people living with HIV/AIDS who are on ART. The correct information that you provide us in combination with information's we obtain from other clients have great importance adjusting and improving that are provided the clients and to set an effective prevention and intervention strategy for HIV/AIDS in the country there is no any risk or discomfort that you will face by participating in the research except devoting of your time for responding to the questionnaire. I strongly assure that your name and other identifier of you status will not be documented in the questionnaire and the information you provide us will be kept confidential and will not be used for anything other than research purpose. You are not forced to participate and you have the right to quit at any time in between. But we encourage you to respond to the questions and give us necessary information's. the question will not take more than 30 minutes. You can ask any question at any time and contact persons listed below.

Thank you!

The researcher explained me all the necessary information about the objective of the study. In addition, I have been informed as I have the right to not to participate and quit at any time. Based on the information, I confirm my agreement to participate on the study and provide necessary information.

Are you willing to participate in the study? Agree ☐ Disagree ☐

If the client agrees, thank him/her and proceed with the interview.

If the client disagrees, thanks and proceed to the next eligible client.

Interviewer signature _____ Date _____/_____/_____

Format to be filled

No	Question	
01	Name of the health facility	
02	Date of interview	
03	Name of the interview	
04	Name and signature of supervisor	
05	Date	
06	Code number	

Questionnaire (English version)

Part I. Socio-demographic information

No	Questions	Response	Remark
101	Sex	1. Male 2. Female	
102	Age (in completed year)	_____	
103	Residence	1. Urban 2. Rural	
104	Marital status	1. Single 2. Married (living together) 3. Married (living separately) 4. Divorce 5. Widowed	
105	Educational status	1. No formal education 2. primary 3. secondary 4. college/university	
106	Religion	1. Orthodox Christian 2. Protestant 3. Muslim 4. Catholic 5. Other (specify)_____	
107	Ethnicity	1. Amhara 2. Tigre 3. Oromo 4. other (specify)_____	
108.	Occupation	1. Government employee 2. Private employee 3. Housewife 4. Commercial sex worker 5. Merchant 6. Farmer 7. Drive 8. Other specify)_____	
109	Average monthly income	_____Eth birr	
110	How many children do you have	_____	

Part II Partner related characteristics

S.no.	Questions	Response	Remark
201	Educational status of partner	1. No formal education 2. Primary school 3. Secondary school 4. college/university	
202	Partner's occupation	1. Government employee 2. Private employee 3. Commercial sex worker 4. Housewife 5. Merchant 6. Farmer 7. Driver 8. Other(specify)_____	
203	Do you have any partner in the last one year?	1. Yes 2. No	
204	If yes how many partner(s) do you have in the last one year?	1. One 2. More than one	
205	Type of partner(s) with whom you had sex in the past one year?	1. Regular 2. Commercial partner 3. Non-regular partner	More than one answer is possible
206	Do you know the HIV status of the partner(s) with whom you had sex in the past one year?	1. Yes 2. No	
207	If yes to Q. 206 what was /were the HIV status of the partner/s with whom you had sex in the past one year?	1. Negative 2. Positive 3. Unknown	More than one answer is possible
208	Have you discussed about safe sex with your partner(s)?	1. Yes 2. No	
209	Length of stay with current partner	_____year(s)	
210	Have you disclose your HIV status to your sexual partner(s)?	1. Yes 2. No	

Part III Medical related factors

No	Questions	Possible Responses	Remark
301	How long is it since you tested HIV positive?	_____year	
302	Have you started ART?	1. Yes 2. No	
303	If yes how long is it since you have started ART?	_____(in months)	
304	Level of clinical adherence	1. Poor 2. Good	Review document
305	Level of drug adherence	1. Good 2. Fair 3. Poor	Review document
306	The patient current/recent CD4count?	_____	Review document

Part IV: Knowledge related safe sex

No	Questions	Possible Responses	Remark
401	Do you think having sex after excess alcohol consumption is risky?	1. Yes 2. No	
402	Do you believe that unprotected sex between HIV positive partners is risky for the disease progression?	1. Yes 2. No	
403	Do you believe that using condom is important during sexual act between HIV positive partners?	1. Yes 2. No	
404	Do you believe that having multiple sexual partners is risky for HIV transmission?	1. Yes 2. No	
405	Do you believe that disclosing self HIV status to partner/s is important to prevent disease transmission?	1. Yes 2. No	
406	Do you believe that getting infected with other sexually transmitted disease will enhance HIV transmission?	1. Yes 2. No	

Part V: Behavioral factors

No	Question	Response	Remark
501	Have you used any substance in the last one year?	1. Yes 2. No	
502	If yes to Q. 501 which type(s) have you used?	○ Chat ○ Cigarette ○ Alcohol ○ Hashish ○ Shisha ○ Others(specify)_____	
503	Do you have any sexual intercourse in the past one year?	1. Yes 2. No	
504	Have you had sex after substance use in the past one year?	1. Yes 2. No	
505	Have you ever had sex with the influence of alcohol in the last one year?	a. Yes b. No	
506	Have you disclosed your HIV status to your partner/s in the past one year?	1. Yes 2. No	
507	If yes, had you sex with more than one partner in the past one year?	1. Yes 2. No	
508	If yes to Q.503 Have you used condom during sexual intercourse in the past one year?	1. Yes 2. No	
509	If yes to Q.508 How often you use condom in the past one year?	1. Always 2. Most of the time 3. Sometimes	
`	If your answer is 2 for Q.508 or 2 or 3 for Q 509 what was/were the reason(s) for not using condom always?	1. My partner did not want to use condom 2. My partner already HIV positive 3. Condom was not available 4. I fear to ask my partner to use a condom 5. Thinking that ART prevents the acquisition and transmission of HIV 6. Was drank and didn't think	(Multiple responses are possible)

		of condom use 7. Wanted to have a child (own/partner) 8. Condom is against my religion 9. I didn't use because I am infected 10. Other(specify)_____	

የፈቃድ መጠየቂያ ቅፅ

ጤና ይስጥልኝ _____እባላለሁ፡፡ የጥናቱ አባል ነኝ እዚህ የተገኘሁት በጎንደር ዩኒቨርሲቲ የዉስጥ ደዌ ትምህርት ክፍልን ወክየ አጋላጭ የሆኑ የግብረ ስጋ ግንኙነት ባህሪያትን የተመለከተ መረጃ የፀረ-ኤች.አይ.ቪ መድሃኒትና እንክብካቤ ተጠቃሚ ከሆኑ ደንበኞች ላይ ለመሰብሰብ ነዉ፡፡ ስለዚህ አጋላጭ የሆኑ የግብረ ስጋ ግንኙነት ባህሪያትን ለመዳሰስ ይህ መጠይቅ ተዘጋጅቷል፡፡ የጥናቱ ዋና አላማ አጋላጭ የሆኑ የግብረ ስጋ ግንኙነት ባህሪያት ላይ መሰረታዊ የሆነ መረጃን ለመስጠት ነዉ፡፡ ከእርስዎና ከሌሎች ድንበኞች የሚገኘዉ ትክክለኛ መረጃ ለደንበኞች የምንሰጠዉን አገልግሎት ለማስተካከልና ለማሻሻል እንዲሁም በአገሪቱ ኤች.አይ.ቪ.. ኤድስን ለመከላከልና ለማከም ዉጤታማ የሆኑ አቅጣጫዎችን ለማስቀመጥ ከፍተኛ የሆነ ጥቅም ይኖረዋል፡፡

ጥያቄዎቹን ለመመለስ ከሚወስዱት ሰዓት ወይም ጊዜ ዉጭ በጥናቱ በመሳተፍዎ ሊደርስብዎ የሚችል ምንም ዓይነት ጉዳትም ሆነ ችግር የለም፡፡ በሚሰጡን መረጃ ላይ ስምም ሆነ ሌላ እርስዎን ሊገልፅ የሚችል ነገር እንደማይቀመጥና መረጃዉም በሚስጥር እንደሚያዝና ከዚህ ጥናት ዉጭ ለምንም ዓይነት አገልግሎት እንደማይዉል በጥብቅ አረጋግጥልዎታለሁ፡፡ በጥናቱ እናዲሳተፉ አይገደዱም እንዲሁም በማንኛዉም ሰዓት ጥናቱን አቋርጠዉ የመዉጣት መብት አለወት ፡፡ነገር ግን በጥናቱ እንዲሳተፉና አስፈላጊ የሆኑ መረጃዎችን እንዲሰጡን እንጠይቃለን፡፡ ጥያቄዉ ከሰላሳ ደቂቃ በላይ አይወስድም፤ ማንኛዉንም ዓይነት ጥያቄ በማንኛዉም ሰዓት መጠየቅ ይቻላል፡፡

አመሰግናለሁ !!!

ተመራማሪዉ ስለጥናቱ ዓለማ ሁሉንም መረጃዎች ገልፆልኛል በተጨማሪም በጥናቱ ያለመሳተፍና ተሳትፎየንም በማንኛዉም ሰዓት የማቋረጥ መብት እንዳለኝ ተገንዝቢያለሁ ፡፡ በተሰጠኝ መረጃ መሰረት በጥናቱ ለመሳተፍና አስፈላጊዉን መረጃ ለመስጠት መስማማቴን አረጋግጣለሁ፡፡

በጥናቱ ለመሣተፍ ተስማምተዋል? ተስማምቻለሁ ☐ አልተስማማሁም ☐

ቃለ-መጠይቅ (በአማርኛ)

ክፍል አንድ ፡ አጠቃላይ መረጃ

ተ.ቁ	ጥያቄ	መልስ	አስተያየት
01	ፆታ	1. ወንድ 2. ሴት	
102	እድሜ	_____	
103	የመኖሪያ አደራሻ	1. ከተማ 2. ገጠር	
104	የጋብቻ ሁኔታ	a. ያላገባ/ች b. ባለትዳር(አብረዉ የሚኖሩ) c. ባለትዳር(አብረዉ የማይኖሩ) d. የተፋታ/ች e. የሞተበት/ባት	
105	የትምህርት ደረጃ	1. መደበኛ ት/ት ያልተከታተሉ 2. ከ1-6ኛ ክፍል 3. ከ7–12ኛ ክፍል 4. ዲፕሎማ 5. ዲግሪና ከዚያ በላይ	
106	ሀይማኖት	1. ኦርቶዶክስ ክርስትያን 2. ፕሮቴስታንት 3. መሰሊም 4. ካቶሊክ 5. ሌላ ካለ_____	
107	ብሄር	1. አማራ 2. ትግሬ 3. ኦሮሞ 4. ሌላ _____	
108	ስራ	1. የመንግስት ሰራተኛ 2. የግል ተቀጣሪ 3. የቤት እመቤት 4. ሴተኛ አዳሪ 5. ነጋዴ 6. ገበሬ 7. ሹፌር 8. ሌላ ካለ(ይጠቀስ)_____	
109	አማካኝ የወር ገቢ	_____ የኢትዮ. ብር	
110	ስንት ልጅ አለዎት	_____	

ክፍል ሁለት ፡ የትዳር አጋርን ፤ ወንድ/ ሴት ጓደኛን የሚመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	አስተያየት
201	የትዳር አጋርዎ ፤ ወንድ/ሴት ጓደኛዎ የትምህርት ደረጃ? (ባል/ ሚስት ወይም ቋሚ ጓደኛ ላላቸዉ)	1. መደበኛ ት/ት ያልተከታተሉ 2. ከ1-6ኛ ክፍል 3. ከ7–12ኛ ክፍል 4. ዲፕሎማ 5. ዲግሪና ከዚያ በላይ	
202	የትዳር አጋርዎ ፤ ወንድ/ ሴት ጓደኛዎ ስራ? (ባል/ ሚስት ወይም ቋሚ ጓደኛ ላላቸዉ)	1. የመንግስት ሰራተኛ 2. የግል ተቀጣሪ 3. የቤት እመቤት 4. ሴተኛ አዳሪ 5. ነጋዴ 6. ገበሬ 7. ሹፌር 8. ሌላ ካለ(ይጠቀስ)_____	
203	ባለፈዉ አንድ ዓመት ግብረ-ስጋ ግንኙነት ነበረዎት?	1. አዎ 2. የለም	
204	ለጥያቄ ቁጥር 203 መልስዎ አዎ ከሆነ ከስንት ሰዉ ጋር ግብረ-ስጋ ግንኙነት ነበረዎት?	1. ከአንድ ሰዉ ጋር 2. ከአንድ ሰዉ በላይ	
205	ባለፈዉ አንድ ዓመት ግብረ ስጋ ግንኙነት የፈጸሙት ከማን ጋር ነው?	1. ከባለቤቴ/ከቋሚ ጓደኛየ ጋር 2. ባል/ሚስት ወይም ቋሚ ጓደኛ ካልሆነ ሰዉ ጋር 3. ከሴተኛ አዳሪ ጋር	(ከአንድ በላይ መመለስ ይቻላል)
206	ግብረ-ስጋ ግንኙነት የፈፀሙበት ሰዉ የኤች.አይ.ቪ. ሁኔታ ምን እንደ ነበር ያዉቃሉ?	1. አዎ 2. አላዉቅም	
207	ለጥያቄ ቁጥር 206 መልስዎ አዎ ከሆነ የኤች.አይ.ቪ. ሁኔታ ምንድን ነዉ?	1. ነፃ 2. ቫይረሱ በደሙ/ሚ ዉስጥ ያለ 3. የማይታወቅ	
208	ጥንቃቄ ስለተሞላበት ግብረ-ስጋ ግንኙነት ከትዳር አጋርዎ ፤ ወንድ ወይም ሴት ጓደኛዎ ጋር ተነጋግረዉ ያዉቃሉ?	1. አዎ 2. አላዉቅም	
209	ከአሁኑ ጓደኛዎ ጋር ምን ያክል ጊዜ ቆይተዋል?	_____ዓመት	
210	የኤች.አይ.ቪ ዉጤትዎን ለባለቤትዎ ወይም ወንድ/ ሴት ጓደኛዎ ግልፅ አድርገዋል?	1. አዎ 2. አደለም	

ክፍል ሶስት. ከህክምና ጋር የተገናኙ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	አስተያየት
301	ኤች.አይ.ቪ. በደምዎ ውስጥ ከተገኘ ምን ያክል ጊዜ ይሆነዋል?	_____ዓመት	
302	የፀረ-ኤች.አይ.ቪ. መድኃኒት ጀምረዋል?	1. አዎ 2. አልጀመርኩም	
303	ለጥያቄ ቁጥር 302 መልስዎ አዎ ከሆነ ከጀመሩ ምን ያክል ጊዜ ይሆነዎታል?	_____(አመት)	
304	የህክምና ቁርኝት ሁኔታ	1. ከፍተኛ 2. ዝቅተኛ	የበሽተኛውን ካርድ በማየት የሚሞላ
305	የመድሃኒት ቁርኝት ሁኔታው	1. ከፍተኛ 2. መጠነኛ 3. ዝቅተኛ 4. _____	የበሽተኛውን ካርድ በማየት የሚሞላ
306	የበሽተኛው የወቅቱ/የቅርብ ጊዜ ሲዲ4 መጠን	_____	የበሽተኛውን ካርድ በማየት የሚሞላ

ክፍል አራት: ጥንቃቄ የጎደለው ግብረ ስጋ ግንኙነት እውቀትን የሚመለከቱ ጥያቄዎች :

ተ.ቁ	ጥያቄ	መልስ	አስተያየት
401	ከመጠን በላይ አልኮል ጠትቶ ግብረ-ስጋ ግንኙነት ማድረግ ለኤች.አይ፣ቪ. ያጋልጣል ብለው ያስባሉ?	1. አዎ 2. የለም	
402	በሁለት ቫይረሱ በደማቸው ውስጥ ባለባቸው ሰወች መካከል የሚደረግ ጥንቃቄ የጎደለው ግብረ-ስጋ ግንኙነት ለበሽታው መባባስ ምክንያት ነው ብለው ያስባሉ?	1. አዎ 2. የለም	
403	ቫይረሱ በደማቸው ውስጥ ባለባቸው ሰወች መካከል በሚደረግ ግብረ-ስጋ ግንኙነት ወቅት ኮንዶም መጠቀም አስፈላጊ ነው ብለው ያስባሉ?	1. አዎ 2. የለም	
404	ከአንድ በላይ ከሆነ ሰው ጋር የግብረ ስጋ ግንኙነት ማድረግ ለኤች.አይ.ቪ. መተላለፍ ምክንያት ይሆናል ብለው ያስባሉ?	1. አዎ 2. የለም	
405	የኤች.አይ.ቪ. ውጤትዎን ለባለቤትዎ / ወንድ ወይም ሴት ጓደኛዎ ግልፅ ማድረግ ኤች.አይ.ቪን ለመከላከል አስፈላጊ ነው ብለው ያስባሉ?	1. አዎ 2. የለም	
406	በሌላ በአባለዘር በሽታ መያዝ በኤች.አይ.ቪ. መያዝን ወይም ማስተላለፍን ይጨምራል ብለው ብለው ያስባሉ?	1. አዎ 2. የለም	
404	የፀረ-ኤች.አይ.ቪ መድሃኒት የኤች.አይ.ቪ ስርጭትን /ሞተላለፍን	1. አዎ 2. የለም	

	ይከላከላል ብለዉያስባሉ?		

ክፍል አምስት : የግል ባህሪን የሚመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	አስተያየት
501	ባለፈዉ አንድ ዓመት ዕፅ ተጠቅመዉ ያዉቃሉ?	1. አዎ 2. የለም	
502	መልስዎ አዎ ከሆነ ምን ዓይነት ዕጽ ነዉ የተጠቀሙት ?	○ ጫት ○ የአልኮል መጠጥ ○ ሲጋራ(ትምባሆ) ○ ሀሽሽ ○ ሺሻ ○ ሌላ ካለ (ይጠቀስ)_____	
503	ባለፈዉ አንድ ዓመት የግብረ -ስጋ ግንኙነት ፈፅመዋል?	1. አዎ 2. አልፈፀምኩም	
504	ባለፈዉ አንድ ዓመት ዕፅ ከተጠቀሙ በኋላ የግብረ -ስጋ ግንኙነት ፈፅመዉ ያዉቃሉ?	1. አዎ 2. አላዉቅም	
505	ባለፈዉ አንድ ዓመት አልኮል ከመጠን በላይ ጠጥተዉ የግብረ -ስጋ ግንኙነት ፈፅመዉ ያዉቃሉ?	1. አዎ 2. አላዉቅም	
506	ያታዊ ግንኙነት ሲፈፅሙ ኤች.አይ.ቪ በደምዎ ዉስጥ እንዳለ ግልፅ ያደርጋሉ?	1. አዎ 2. አላደርግም	
507	ባለፈዉ አንድ ዓመት ከአንድ ሰዉ በላይ የግብረ-ስጋ ግንኙነት ነበረወት?	1. አዎ 2. የለኝም	
508	ባለፈዉ አንድ ዓመት ግብረ-ስጋ ግንኙነት ሲፈፅሙ ኮንዶም ይጠቀማሉ?	1. አዎ 2. አልጠቀምም	
509	ለጥያቄ ቁጥር 508 መልስዎ አዎ ከሆነ ኮንዶምን ምን ያክል ጊዜ ይጠቀማሉ?	1. ሁል ጊዜ 2. አብዛኛዉን ጊዜ 3. አልፎ አልፎ	
510	ለጥያቄ ቁጥር 508 መልስዎ 2, ከሆነ ወይም ለጥያቄ ቁጥር 509 መልስወ 2 ወይም 3 ከሆነ ኮንዶምን ሁልጊዜ ላለመጠቀምወ ምክንያቱ ምን ነበር?	1. ያታዊ ግንኙነት የፈፀምኩበት ሰዉ ኮንዶም መጠቀም ስለማይፈልግ 2. ያታዊ ግንኙነት የፈፀምኩበት ሰዉ ኤች.አይ.ቪ ስላለበት 3. ኮንዶም ስላልነበረ 4. ኮንዶም እንዲጠቀም/ እንድትጠቀም መጠየቅ ስለፈራሁ 5. አልኮል ጠጥቸ ስለነበር ኮንዶም ስለመጠቀም አላሰብኩም 6. ልጅ መዉለድ ስለፈለኩ/ ስለፈለግን 7. ኮንዶም መጠቀምን ሀይማኖቴ ስለማይፈቅድ 8. አንድ ጊዜ በቫይረሱ ተይዣለሁ ብየ ስላሰብኩ 9. ሌላ ካለ ይጠቀስ_____	(ከአንድ በላይ መመለስ ይቻላል)

Annex 3 Declaration

I, under signed senior MSc student declare that this thesis is my original work in partial fulfillment of the requirement for the master degree in clinical tropical infectious disease and HIV medicine.

Name: **Abiyot Abeje**

Signature: _____

Place of submission: department of internal medicine collage of medicine and health science, university of Gondar.

Date of submission

This thesis work will be submitted for examination with our approval as a university advisor.

Advisors Name:	Signature	Date
1. Abebaw Addis (MPH IN RH)	_____	_____
2. Dr. Genet G/medhin (MD, Gynecologist)	_____	_____

ASSURANCE OF INVESTIGATOR

I, the undersigned agree to accept responsibility for the scientific, ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the research and publications office of the University of Gondar.

Name of the Investigator: Abiyot Abeje

Signature: _____ Date _____

Approval of the advisor (s)

Name of Advisors:	Signature	Date
1. Mr. Abebaw Addis (MPH in RH)	_____	_____
2. Dr. Genet G/ medhin (MD,Gynecologist)	_____	_____